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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/552,589	04/19/2000	Masato Ochiai	35.C14438	4086

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EXAMINER
HAMILTON, MONPLAISIR G

ART UNIT	PAPER NUMBER
2172	

DATE MAILED: 06/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _19 April 2000_ .
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-36_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1-36_ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on _19 April 2000_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.
    If approved, corrected drawings are required in reply to this Office action.
12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All b)☐ Some * c)☐ None of:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.
14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
    a) ☐ The translation of the foreign language provisional application has been received.
15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _3_ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35

U.S.C. 119(a)-(d). The certified copy has been filed in parent *with* Application No. 09552589, filed

on 04/19/2000.

Specification

The disclosure is objected to because of the following informalities: page 1, lines 8, 11

"directly" should be "directory"; page 6, line 10 "devices each other" should be "devices to each

other"; page 10, line 1 "vent" should be "event"; page 15, line 19 "waits an" should be "waits for

an"; and page 27, line 17 "is ends" should be "is done". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Query*

Previews in Networked Information Systems by Doan et al. herein referred to as Doan in view of

RFC 1777 – Lightweight Directory Access Protocol by Yeong et al herein referred to as Yeong.

Referring to Claims 1, 10, 19, 28:

Doan discloses the use of a two-phase approach to query-formulation (page 120,

Abstract, lines 4-6). Users (clients) formulate initial queries and refine the resulting datasets in

the Preview and Refinement Panel (page 122, Two-phase formulation process, lines 20-24). The

reduction process is performed incrementally by selecting a rough range of values for a few

attributes in the Query Preview Phase then selecting more precise values or exact values of more

attributes in the Query Refinement Phase (page 122, Two-phase formulation process, lines 9-14).

At the database layer the table of contents (TOC) and the metadata of the datasets (MOD) are

used for rapid retrieval of the query results at the interface layer (page 122, Two-phase

formulation process, lines 20-26). The query refinement panel supports Dynamic queries over a

local database that stores the metadata of the dataset extracted from the Query Preview Panel

(page 126, Query Refinement Panel, lines 1-6). The Query Preview Panel displays the number

of datasets for each parameter group, selected region, and year by using the attribute preview

bars (page 125, The Query Preview Panel, lines 10-14). Users further refine the query by

selecting more precise values for the parameters (attributes)(page 126, The Query Refinement

Panel, lines 15-20). Doan also discloses a networked information system, which implies a client

server model (page 120, Abstract, line 1).

Doan does not expressly disclose the claimed "device search system comprising a server

unit for controlling a database in which information for identifying a device on a network and

information for identifying a device on a network and information for various attributes of the

device are registered and for executing the search of the device in accordance with a search

request, and a client unit for outputting the search request to the server unit, said client unit

comprising:

first generation means for generating a first condition designating one or more attributes

in order to search a desired device on the network,

second generation means for extracting a certain attribute from the first condition to

generate a second condition,

search means for requesting the server unit to search in accordance with the second

condition to obtain the information for a device match the second condition as a result of the

above search,

first control means for sorting and outputting only the information for the device

matching the first condition as first result information in accordance with the obtained search

result, and

second control means for outputting the information for the device matching the second

condition as second result information in accordance with the obtained search result and the

information showing presence or absence of each attribute designated by the first condition for

each device."

Yeong discloses the general model is one of clients performing protocol operations

against servers (Page 2, Protocol Model, lines 1-2). Yeong also discloses the use of a filter to

defines the conditions the must be fulfilled in order for the search to match a given query (page

10, Parameters of Search Request, lines 2-4). The search response contains an indication of

success or detailing any errors that have occurred (page 10, Parameters of Search Request, lines

20-26). When adding an entry to the directory, the entry needs a distinguished name, all

components of the name must exits for the add to succeed (page 12, Add Operation, lines 1-11).

At the time the invention was made, it would have been obvious to a person of ordinary

skill in the art to modify the Restaurant Finder (Doan, page 121, Restaurant Finder, lines 1-9) /

NASA Earth Observing System to search for devices in a network. One of ordinary skill in the

art would have been motivated to do this because it would help users identify devices that match certain criteria (Doan, page 121, Restaurant Finder, lines 1-9).

Referring to Claims 6, 15, 33:

Doan discloses the use of a two-phase approach to query-formulation (page 120, Abstract, lines 4-6). Users (clients) formulate initial queries and refine the resulting datasets in the Preview and Refinement Panel (page 122, Two-phase formulation process, lines 20-24). The reduction process is performed incrementally by selecting a rough range of values for a few attributes in the Query Preview Phase then selecting more precise values or exact values of more attributes in the Query Refinement Phase (page 122, Two-phase formulation process, lines 9-14). At the database layer the table of contents (TOC) and the metadata of the datasets (MOD) are used for rapid retrieval of the query results at the interface layer (page 122, Two-phase formulation process, lines 20-26). The query refinement panel supports Dynamic queries over a local database that stores the metadata of the dataset extracted from the Query Preview Panel (page 126, Query Refinement Panel, lines 1-6). The Query Preview Panel displays the number of datasets for each parameter group, selected region, and year by using the attribute preview bars (page 125, The Query Preview Panel, lines 10-14). Users further refine the query by selecting more precise values for the parameters (attributes) (page 126, The Query Refinement Panel, lines 15-20). Doan also discloses a networked information system, which implies a client server model (page 120, Abstract, line 1).

Doan does not expressly disclose the claimed "client unit for requesting search of a device on a network and a server unit for executing search of the device in accordance with a search request from the client unit, wherein the server unit comprises;

Control means for controlling a database in which the information for identifying a

device on the network and the information for various attributes of the device are registered,

Reception means for receiving a first condition designating one or more attributes in

order to search a desired device on the network from the client unit,

Generation means for extracting a certain attribute from the first condition and generating

a second condition,

first search means for searching a device matching the first condition from the database

and outputting first result information, and

second search means for searching a device matching the second condition from the

database and outputting second result information"

Yeong discloses the general model is one of clients performing protocol operations

against servers (Page 2, Protocol Model, lines 1-2). Yeong also discloses the use of a filter to

defines the conditions the must be fulfilled in order for the search to match a given query (page

10, Parameters of Search Request, lines 2-4). The search response contains an indication of

success or detailing any errors that have occurred (page 10, Parameters of Search Request, lines

20-26). When adding an entry to the directory, the entry needs a distinguished name, all

components of the name must exits for the add to succeed (page 12, Add Operation, lines 1-11).

The user can also specify attributes when adding a new entry (page 12, Add Operation, lines 1-

11).

At the time the invention was made, it would have been obvious to a person of ordinary

skill in the art to modify the Restaurant Finder (Doan, page 121, Restaurant Finder, lines 1-9) /

NASA Earth Observing System to search for devices in a network. One of ordinary skill in the

art would have been motivated to do this because it would help users identify devices that match certain criteria (Doan, page 121, Restaurant Finder, lines 1-9).

Referring to Claims 24:

Doan discloses the use of a two-phase approach to query-formulation (page 120, Abstract, lines 4-6). Users (clients) formulate initial queries and refine the resulting datasets in the Preview and Refinement Panel (page 122, Two-phase formulation process, lines 20-24). The reduction process is performed incrementally by selecting a rough range of values for a few attributes in the Query Preview Phase then selecting more precise values or exact values of more attributes in the Query Refinement Phase (page 122, Two-phase formulation process, lines 9-14). At the database layer the table of contents (TOC) and the metadata of the datasets (MOD) are used for rapid retrieval of the query results at the interface layer (page 122, Two-phase formulation process, lines 20-26). The query refinement panel supports Dynamic queries over a local database that stores the metadata of the dataset extracted from the Query Preview Panel (page 126, Query Refinement Panel, lines 1-6). The Query Preview Panel displays the number of datasets for each parameter group, selected region, and year by using the attribute preview bars (page 125, The Query Preview Panel, lines 10-14). Users further refine the query by selecting more precise values for the parameters (attributes) (page 126, The Query Refinement Panel, lines 15-20). Doan also discloses a networked information system, which implies a client server model (page 120, Abstract, line 1).

Doan does not expressly disclose the claimed "method for searching a device in accordance with a search request from a client unit for requesting search of a device on a network comprising the steps of:

controlling a database in which information for identifying a device one the network and information for various attributes of the device are registered;

receiving a first condition designating one or more attributes in order to search a desired device on the network from the client unit;

extracting a certain attribute from the first condition and generating a second condition;

searching a device matching the first condition from the database and outputting first result information; and

searching a device matching the second condition and outputting second result information."

Yeong discloses the general model is one of clients performing protocol operations against servers (Page 2, Protocol Model, lines 1-2). Yeong also discloses the use of a filter to defines the conditions the must be fulfilled in order for the search to match a given query (page 10, Parameters of Search Request, lines 2-4). The search response contains an indication of success or detailing any errors that have occurred (page 10, Parameters of Search Request, lines 20-26). When adding an entry to the directory, the entry needs a distinguished name, all components of the name must exits for the add to succeed (page 12, Add Operation, lines 1-11). The user can also specify attributes when adding a new entry (page 12, Add Operation, lines 1-11).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the Restaurant Finder (Doan, page 121, Restaurant Finder, lines 1-9) / NASA Earth Observing System to search for devices in a network. One of ordinary skill in the

art would have been motivated to do this because it would help users identify devices that match

certain criteria (Doan, page 121, Restaurant Finder, lines 1-9).

Referring to Claims 2, 7, 11, 16, 20, 25, 29, 34:

Doan in view of Yeong disclose the limitations as discussed in claims 1, 6, 10, 15, 19, 24,

28, and 33 above. Doan discloses the use of a Table Of Contents (index) (page 122, Two-phase

query formulation, lines 21-31). This implies that the use of one (indispensable) attribute that is

used to index the device in the TOC. The information gathered from the TOC and MOD is used

to generate the Query refinement phase (page 123, Two-phase query formulation, lines 1-15).

Doan in view of Yeong does not expressly disclose the claimed " device attributes

controlled by the database include an indispensable attribute to be registered whenever a device

is registered in the database and attributes other that the indispensable attribute, and

the second generation means extracts only the indispensable attribute from attributes

designated by the first condition to generate the second condition." However, Doan in view of

Yeong teach that the Query refinement phase, which is equivalent to the generation of the second

condition, uses metadata that is extracted from the datasets selected by the user (page 123, Two-

phase query formulation, lines 1-15). The user selects these datasets depending on information

located in the TOC, which is a listing of attributes similar to the claimed indispensable attribute.

It would have been obvious to one having ordinary skill in the art at the time that the

invention was made to modify the teachings of Doan in view of Yeong. One of ordinary skill in

the art would have been motivated to do this because this would drastically reduce the data

volume that would be returned and it would aid in returning devices that have all the attributes

wanted by the user.

Referring to Claims 3, 8, 12, 17, 21, 26, 30, 35:

Doan in view of Yeong disclose the limitations as discussed in claims 2, 7, 11, 16, 20, 25, 29 and 34 above.

Doan in view of Yeong does not expressly disclose the claimed " third control means for selectively outputting the first information or second result information in accordance with a predetermined condition". However, Doan in view of Yeong does disclose the use a filter, which has the same function as the third control means.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to modify the teachings of Doan in view of Yeong. One of ordinary skill in the art would have been motivated to do this because this would drastically reduce the data volume that would be returned and it would aid in returning devices that have all the attributes wanted by the user.

Referring to Claims: 4, 9, 13, 18, 22, 27, 31, and 36

Doan in view of Yeong disclose the limitations as discussed in claims 3, 8, 12, 17, 21, 26, 30, and 35 above. Doan also discloses that this approach prevents zero-hit queries (page 122, Two-phase query formulation process, lines 3-5).

Doan in view of Yeong does not expressly disclose the claimed "third control means outputs the first result information when a device to be output as the first result information is present and outputs as the first result information is present and outputs the second result information when a device to be output as the first result information is not present." However, Doan in view of Yeong does disclose that zero-hit queries are prevented through the use of the

query refinement module, which is similar to returning the second result information as indicated above.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to modify the teachings of Doan in view of Yeong. One of ordinary skill in the art would have been motivated to do this because this would drastically reduce the data volume that would be returned and it would also prevent zero-hit queries.

Referring to Claims: 5, 14, 23, and 32

Doan in view of Yeong disclose the limitations as discussed in claims 2, 11, 20, and 29 above. Yeong discloses the use of an indication of success or detailing any errors that occurred in the search, this includes indicating the presence or absence of an attribute (page 10, Parameters of Search Request, lines 20-26).

Doan in view of Yeong does not expressly disclose the claimed "client unit further comprises a storage means for storing symbol information corresponding to an attribute which can be designated by the first condition, and

When the second result information is output and when the information showing presence or absence of each attribute designated by the first condition output, presence or absence of each attribute is shown in accordance with a display mode of the symbol information corresponding to each attribute."

However, Doan in view of Yeong disclose the use of an indicator for same purpose.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to modify the teachings of Doan in view of Yeong. One of ordinary skill in

the art would have been motivated to do this because this would give the user an indication of

what attributes are missing from the resources currently located on the network.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

US patent 6026403 issued to Siefert

US patent 5511208 issued to Boyles et al.

US patent 5778185 issued to Gregerson et al

US patent 5261044 issued to Dev et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Monplaisir G Hamilton whose telephone number is 1703-305-

5116. The examiner can normally be reached on Monday - Friday (8:00 am - 4:-30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kim Y Vu can be reached on 1703-305-4393. The fax phone numbers for the

organization where this application or proceeding is assigned are 1703-746-7239 for regular

communications and 1703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 1703-305-3900.
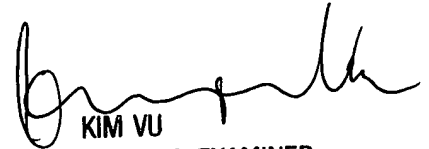
Monplaisir Hamilton
June 13, 2002

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